REMARKS

Claims 1 and 2 have been rejected under 35 USC 103(a) as being unpatentable over Shige et al in view of Tanaka et al. Applicants respectfully disagree with this rejection and urge reconsideration in light of the following comments.

As discussed previously, the currently presented claims are directed to two embodiments of the present invention. The first embodiment of the present invention is a polishing tape for polishing the surface of a substrate of a magnetic recording medium. The polishing tape is made up of a flocked cloth comprising a substrate and a flocked material formed on the substrate. The flocked cloth has a tensile strength in a longitudinal direction, as measured by method A defined in JIS L 1096-1990, of not more than 25kgf/50mm and a tensile elongation of not more than 5%/5kg/50m. A single yarn of a dissolution-decomposition type composite fiber consisting of a nylon component and a dissolving component is used as the flocked material and a thin-fineness filament obtained by splitting a single yarn is used as the pile. The pile is formed at a pile height within a range of from 0.2 to 1.0 mm and the pile density is within a range of from 100 to 200 g/m^2. 80% or more of the pile is formed in a fineness of less than 0.3 d.

The second embodiment of the present invention is also directed to a polishing tape for polishing the surface of a substrate of a magnetic recording medium. This polishing tape is made of a satin fabric with the sum total of a warp cover factor and a weft cover factor of the satin fabric being within a range of from 2,000 to 4,500. A multifilament made of nylon or polyester fibers having a single yarn fineness of not more than 5 d is used as a warp and a multifilament, whose constituent single yarn is formed into a dissolution-decomposition type composite fiber consisting of a nylon component and a dissolving component, is used as a weft. 80% or more of a thin-fineness filament obtained by splitting a

single yarn of the dissolution-decomposition type composite fiber is formed in a fineness of less than 0.3 d.

The present invention was arrived at in order to provide a polishing tape having a polished substrate with a small surface roughness as compared to conventional polishing tapes. The polishing tape of the present invention, due to its construction, prevents the occurrence of crushing and gives notably improved levitation characteristics to the magnetic head. Additionally, the polishing tapes of the present invention are able to accomplish superior polishing of a substrate and at a higher processing speed. This is clearly unexpected in light of the prior art cited by the Examiner and patentably distinguishes the presently claimed invention thereover.

As discussed previously, the Shige et al reference is directed to a method for polishing or texturizing a magnetic disc which comprises a step of bringing a tape traveling in a predetermined direction and made of fibers having a fineness of not more than 0.1 d and a slurry containing polishing grains dispersed therein into contact with a substrate of the magnetic disc. The only requirement this reference has with respect to the tape is that it be made of fibers having a fineness of not more than 0.1 d. In the case of flocked tapes, fibers flocked on the tapes having a fineness of not more than 0.1 d can be used and the ratio of an average diameter of fibers used in the polishing tape to an average particle size of the polishing grains is usually in the range of from 0.5 to 50, preferably 1 to 10. There is no disclosure in this reference with respect to the polishing tape having a pile with a pile height within a range of from 0.2 to 1.0 mm and a pile density within the range of from 100 to 200 g/m^2, as required by Claim 1, or that the sum total of a warp cover factor and a weft cover factor of a fabric making up the polishing tape be within the range of from 2,000 to 4,500, as required by Claim 2. Also, Shige et al has no disclosure with respect to the fabric of the polishing tape being a satin

fabric. Therefore, the secondary Tanaka et al reference must provide the motivation to one of ordinary skill in the art to modify the tape of the Shige et al reference in a manner that would yield the presently claimed invention in order to present a proper showing of prima facie obviousness under 35 USC 103. The Tanaka et al reference contains no such disclosure.

The Tanaka et al reference discloses an abrasive sheet used in a texturizing process in the production of a magnetic recording medium. The abrasive sheet contains, on at least one surface thereof, a layer of a non-woven fabric comprising not less than 80% of fibers having a fiber diameter of 10 microns or less and the non-woven fabric is selected from a group consisting of an entangled, non-woven fabric and a melt-blown non-woven fabric. This reference further discloses that the fiber length of the fibers varies with the process for forming the web and that when the web is formed by a card or air-layering process, fibers having a length of 20-110 mm are used. When the web is formed by a wet process, fibers having a length of 1-30 mm are used and the fineness of a dividable fiber is preferably 1-5 d to uniformly disperse the dividable fibers and easily form fibers having a fiber diameter of 10 microns or less. As with the previously discussed Shige et al reference, this reference has no disclosure with respect to the polishing tape having a pile formed thereon at a pile height within a range of from 0.2 to 1.0 mm, a pile density within a range of from 100 to 200 g/m^2, a cover factor within a range of from 2,000 to 4,500 and the cloth being satin.

The Examiner states that satin fabrics are well known in the art of textiles as smooth woven fabrics and, as such, it would be obvious to select a satin weave fabric in order to provide a smooth, less abrasive fabric. However, the Examiner has not produced any showings which show that satin fabrics could or have been used to abrade surfaces of a material such as a magnetic disc. In fact, since satin weaves are known to be "smooth", this would seem to teach away from their use as

an abrasive material. Therefore, unless the Examiner can show where it is known in the art to use fabrics having a satin finish as an abrasive material for magnetic discs, the "Official Notice" given in the Office Action is not considered to be relevant to the presently claimed invention.

Although the Examiner has not made a showing of prima facie obviousness with respect to the presently claimed invention, Applicants respectfully submit that objective evidence of the unobviousness of the presently claimed invention is of record which is more than sufficient to rebut any proper showing of prima facie obviousness under 35 USC 103. None of the references cited by the Examiner suggest that anything advantageous would occur from the manipulation of pile height, pile density and warp and weft cover factors for the polishing tape. The Examiner states in the Office Action that pile height, pile density and cover factor are features that one of ordinary skill in the art would have readily been able to determine but none of the references cited by the Examiner suggest as much. In fact, none of the references cited by the Examiner even discuss pile height, pile density and cover factor. The Examiner is respectfully requested to produce a reference which shows that these considerations are common in the design of a polishing tape used for polishing or texturizing a magnetic disc. In the absence of a specific showing, Applicants respectfully submit that the Examiner has not established that pile height, pile density and cover factor are features one of ordinary skill in the art would consider in the design of a polishing tape and is merely using hindsight provided by the present disclosure.

On pages 19-24 of the present application, Examples and Comparative Examples are presented which illustrate that the polishing tapes according to the present invention have superior properties as compared to comparative polishing tapes outside of the scope of the present claims. Comparative Examples A, B and C all show comparative polishing tapes which are closer to the present invention than the polishing tapes

disclosed in the prior art cited by the Examiner. As can be seen by the results contained in Tables 1, 2 and 3 in the present specification, the polishing tapes of the present invention clearly have superior properties over the comparative polishing tapes of Comparative Examples A, B and C.

A Declaration Under 37 CFR 1.132 is also of record in the present application which further establishes the unexpectedly superior properties associated with the presently claimed invention. In Comparative Example 1 of the Declaration Under 37 CFR 1.132, the only difference between the polishing tape shown there and a polishing tape according to the present invention was that the pile fiber fineness was 0.39 d. As can be seen by the results of polishing using the tape of Example 1 and the tape of Comparative Example 1, the tape of the present invention had a higher processing speed and produced a superior finishing of the substrate. Comparative Example 2 utilizes a polishing tape having a pile height which was less than that of the presently claimed invention. Comparing Comparative Example 2 with Example 2, which was identical to the polishing tape of Comparative Example 2 except that it had a pile height according to the present claims, showed that the polishing tape of Example 2 had a superior processing speed and resulted in a superior finish on the substrate. Comparative Example 3 had a pile height greater than the claimed upper limit of Claim 1, Comparative Example 4 had a pile density less than the claimed lower limit of Claim 1 and Comparative Example 5 had a pile density greater than the claimed upper limit of Claim 1. All of the polishing tapes of these Comparative Examples were inferior to the polishing tapes of Examples 1-6, which correspond to currently presented Claim 1. The polishing tapes of Comparative Examples 1-5 are closer to the present invention than the polishing tapes of the references cited by the Examiner. As such, the superior properties associated with the presently claimed invention over these comparative

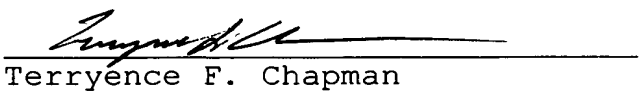
polishing tapes clearly establishes the unobviousness of the presently claimed invention.

In Table 3 of the Declaration Under 37 CFR 1.132, polishing tapes according to Claim 2 are compared with comparative polishing tapes of Comparative Example 1, which had a weft fiber fineness greater than the upper limit of Claim 2, Comparative Example 2 which had a cover factor less than the lower limit of Claim 2 and Comparative Example 3 which had a cover factor greater than the upper limit of Claim 2. As shown by the results contained in Table 3, the polishing tapes corresponding to Claim 2 clearly have superior properties over the comparative polishing tapes of Comparative Examples 1-3. The polishing tapes of Comparative Examples 1-3 are closer to the present invention than the generic disclosures with respect to polishing tapes shown in the references cited by the Examiner. Since Applicants have established superior properties of the present invention over prior art closer to the present invention than in the references cited by the Examiner, Applicants respectfully submit that a showing of the unobviousness of the presently claimed invention has been made which more than rebuts any showing of prima facie obviousness made by the Examiner.

The Examiner states in the outstanding Office Action that Applicants have not shown that the results obtained by the present invention are actually unexpected. Nothing in the prior art suggests that superior properties would be obtained by presenting polishing tapes having the presently claimed physical characteristics. The Examiner has not shown why the properties associated with the presently claimed invention would not be unexpected in light of the generic disclosures of the cited references which do not even speak to the characteristics required in the present claims for the polishing tapes. Applicants respectfully submit that Applicants have established the patentability of the presently claimed invention over the prior art cited by the Examiner.

Reconsideration of the present application and the passing of it to issue is respectfully solicited.

Respectfully submitted,



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